

IN THE CLAIMS

1. (Currently Amended) Method for reshaping a set of conductive elements distributed on the bottom surface of an electronic module, said set of conductive elements forming means to transfer the module onto a motherboard and/or electromagnetic shielding means for the bottom surface of the module and/or electrical interconnection means with the motherboard,

~~characterised in that~~wherein said method comprises a module stress reflow step, in a volume with walls of predetermined shapes, to enable stress release between at least some of the constituent elements of the module, such that the tops of the free ends of the set of conductive elements fit a predetermined two-dimensional or three-dimensional envelope.

2. (Currently Amended) Method according to claim 1, ~~characterised in that~~wherein the volume with walls of predetermined shapes is a volume wherein the first wall, intended to be in contact with the tops of the free ends of the set of conductive elements, is a plane wall,

the predetermined two-dimensional or three-dimensional envelope being a plane, said reshaping being restoring of the surface flatness.

3. (Currently Amended) Method according to claim 2, ~~characterised in that~~wherein the volume with walls of predetermined shapes is a volume wherein a second wall, intended to be in contact with the surface of the module opposite that whereon the conductive elements are distributed, is a plane wall.

4. (Currently Amended) Method according to ~~any of claims 1 to 3,~~
~~characterised in that~~claim 1, wherein the module stress reflow step comprises the following steps:

- positioning of the module on a plate;

- positioning of a back-plate on the plate, so as to trap and apply stress to the module in the volume with walls of predetermined shapes formed between the plate and the back-plate;

- placing of the plate/module/back-plate superposition in a furnace, and heating according to a suitable temperature profile to enable stress release between at least some of the constituent elements of the module.

5.(Currently Amended) Method according to claim 4, ~~characterised in that~~wherein the heating step is followed by the following steps:

- cooling of the plate/module-back-plate superposition;
- release of the module from the volume with walls of predetermined shapes.

6.(Currently Amended) Method according to ~~any of claims 4 and 5~~claim 4, said electronic module comprising at least one substrate, ~~characterised in that~~wherein said temperature profile is defined so as to exceed the vitreous transition point of the substrate to modify its mechanical constants and enable it to be deformed.

7.(Currently Amended) Method according to ~~any of claims 4 to 5~~claim 4, said electronic module comprising at least one substrate and at least one connector attached by at least one solder seam, ~~characterised in that~~wherein said temperature profile is defined so as to release the mechanical stress on the solder seams between said connectors and at least one organic substrate, when said substrate is of the connectorised type.

8.(Currently Amended) Method according to ~~any of claims 3 and 7~~, ~~characterised in that~~claim 3, wherein, during the module positioning step on the plate, the module is positioned in a suitable housing formed in the plate.

9.(Currently Amended) Method according to ~~any of claims 3 to 8,~~
~~characterised in that~~claim 3, wherein the back-plate positioning
step on the plate comprises a back-plate tightening step against
the plate, so as to optimise the application of stress to the
module in the volume with walls of predetermined shapes formed
between the plate and the back-plate.

10.(Currently Amended) Application of the method according to ~~any~~
~~of claims 1 to 9~~claim 1 to a radiocommunication module.

11.(Currently Amended) Application of the method according to ~~any~~
~~of claims 1 to 9~~claim 1, to a module comprising conductive
elements belonging the group comprising: columns, beads, inserts
and loops.

12.(Currently Amended) Application of the method according to ~~any~~
~~of claims 1 to 9~~claim 1 to a module comprising:

- a printed circuit board whereon components are mounted;
- an interposition structure, wherein:

~~*aa~~ first surface supports a first set of conductive
elements, so as to enable the transfer of said interposition
structure, via its first surface, onto the bottom surface of said
printed circuit board;

~~*aa~~ second surface supports a second set of conductive
elements, so as to enable the transfer of the module onto the
motherboard, by transferring said interposition structure, via
its second surface, onto the motherboard;

~~characterised in that~~wherein said method enables the
reshaping of the second set of conductive elements.

13.(Currently Amended) Application according to claim 12,
~~characterised in that~~wherein the first and second sets of
conductive elements are combined, the elements supported by the
first surface of the interposition structure being pass-through
and projecting onto the second surface of the interposition
structure,

and in that said method is used to reshape the free ends of the conductive elements projecting onto the second surface of the interposition structure.

14.(Currently Amended) Application according to claim 12, ~~characterised in that~~wherein the first and second sets of conductive elements are not combined, each of the elements of the first set being connected to a first end of a conductive pass-through opening, a second end of each pass-through opening being connected to an element of the second set,

and in that said method is used to reshape the free ends of the conductive elements of the second set.

15.(Currently Amended) Device for reshaping a set of conductive elements distributed on the bottom surface of an electronic module, said set of conductive elements forming means to transfer the module onto a motherboard and/or electromagnetic shielding means for the bottom surface of the module and/or electrical interconnection means with the motherboard,

~~characterised in that~~wherein said device comprises module stress reflow means, in a volume with walls of predetermined shapes, to enable stress release between at least some of the constituent elements of the module, such that the tops of the free ends of the set of conductive elements fit a predetermined two-dimensional or three-dimensional envelope.

16.(Currently Amended) Device according to claim 15, ~~characterised in that~~wherein the volume with walls of predetermined shapes is a volume wherein the first wall, intended to be in contact with the tops of the free ends of the set of conductive elements, is a plane wall,

the predetermined two-dimensional or three-dimensional envelope being a plane, said reshaping being restoring of the surface flatness.

17. (Currently Amended) Device according to claim 16, ~~characterised in that~~wherein the volume with walls of predetermined shapes is a volume wherein a second wall, intended to be in contact with the surface of the module opposite that whereon the conductive elements are distributed, is a plane wall.

18. (Currently Amended) Device according to ~~any of claims 15 to 17, characterised in that~~claim 15, wherein the module stress reflow means comprise:

- a plate whereon the module is positioned;
- a back-plate, intended to be positioned on the plate, so as to trap and apply stress to the module in the volume with walls of predetermined shapes formed between the plate and the back-plate;
- a furnace in which the plate/module/back-plate superposition is placed, and used to heat the superposition according to a suitable temperature profile to enable stress release between at least some of the constituent elements of the module.

19. (Currently Amended) Device according to claim 18, ~~characterised in that~~wherein the module stress reflow means also comprise:

- plate/module-back-plate superposition cooling means;
- means to release the module from the volume with walls of predetermined shapes.

20. (Currently Amended) Device according to ~~any of claims 18 and 19~~claim 18, said electronic module comprising at least one substrate, ~~characterised in that~~wherein it comprises temperature profile application means making it possible to exceed the vitreous transition point of the substrate to modify its mechanical constants and enable it to be deformed.

21. (Currently Amended) Device according to ~~any of claims 18 to 20~~claim 18, said electronic module comprising at least one

substrate and at least one connector attached by at least one solder seam, ~~characterised in that~~wherein it comprises temperature profile application means making it possible to release the mechanical stress on the solder seams between said connectors and at least one organic substrate.

22.(Currently Amended) Device according to ~~any of claims 18 and 21 characterised in that~~claim 18, wherein the plate comprise a housing wherein the shape is suitable to receive the module.

23.(Currently Amended) Device according to ~~any of claims 18 to 22, characterised in that~~claim 18 wherein the back-plate positioning means on the plate comprise means to tighten the back-plate against the plate, making it possible to optimise the application of stress to the module in the volume with walls of predetermined shapes formed between the plate and the back-plate.

24.(Currently Amended) Production method for electronic modules of the type each comprising a set of conductive elements distributed on the bottom surface of the module, said set of conductive elements forming means to transfer the module onto a motherboard and/or electromagnetic shielding means for the bottom surface of the module and/or electrical interconnection means with the motherboard,

~~characterised in that~~wherein said production method comprises a step implementing the ~~abovementioned~~ above-mentioned method for reshaping a set of conductive elements distributed on the bottom surface of an electronic module.

25.(Currently Amended) Method according to claim 24, ~~characterised in that~~wherein the reshaping method implementation step is performed systematically, for all the modules manufactured.

26.(Currently Amended) Method according to claim 24, ~~characterised in that it~~ wherein the method comprises a detection

step of manufactured modules, referred to as defective modules, showing a shape defect, greater than a predetermined threshold, on the tops of the free ends of the conductive elements with respect to a predetermined two-dimensional or three-dimensional envelope

and ~~in that~~wherein the reshaping method implementation step is only performed for said defective modules.